

# **pab® Basic User Manual**

In order to operate the **pab® Basic** system you need to:

- 1) **Install the **pab® Basic** program**
- 2) **Connect hardware parts**
- 3) **Set up user and patient data in **pab® Basic** program**

These steps are described in detail in the chapters 1-3 below.

Once the **pab®** system is ready, you can start testing your patients/clients.

Instructions for various tests can be found in the **pab® Manual for Standard Muscle Tests**".

If you encounter any problems with running the program please contact:

[support@pressureairbiofeedback.com](mailto:support@pressureairbiofeedback.com)

## **pab® Basic - General information**

The **pab®** (Pressure Air Biofeedback) Pro Set is used for muscular function diagnosis. It consists of a **pab®** Basic System (measuring device and software) and inflated TOGU training devices, which are required for a measurement. The software must be downloaded as described below in Chapter 1

### **pab® Basic parts included:**

Parts	Pcs	Description
<b>pab®</b> Basic device	1	<b>pab®</b> Basic System
USB cable	1	
Tube	1	
Inflator needle	1	
Connector	1	
TOGU Bodyroll Senso (colour amethyst)	1	TOGU Training Devices
TOGU Throw Ring (colour amethyst)	1	
TOGU Dynair Ballkissen XL Senso (colour amethyst)	1	
TOGU Senso Ball 23cm (colour amethyst)	1	
TOGU Balance Cushion (colour amethyst)	1	
Straps, black with numbers	2	Accessories
Ball pump	1	
<b>pab®</b> Basic User Manual	1	Manuals
<b>pab®</b> Manual for Standard Tests	1	



# 1. Installation - **pab®** Basic

## Please notice:

If you have previously installed an older **pab®** version on your computer, please uninstall it and delete all related files before downloading the new one.

To download the new **pab®** software program, go to following website:

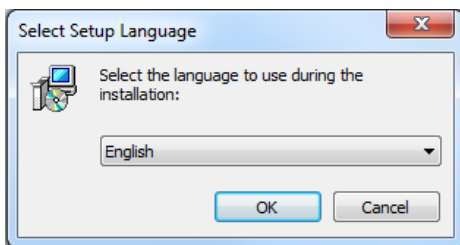
[www.pressureairbiofeedback.com](http://www.pressureairbiofeedback.com)

- Go to “**Downloads**” and select “**Program Download**”.

- Click on the “**pab®** Setup” icon to download.

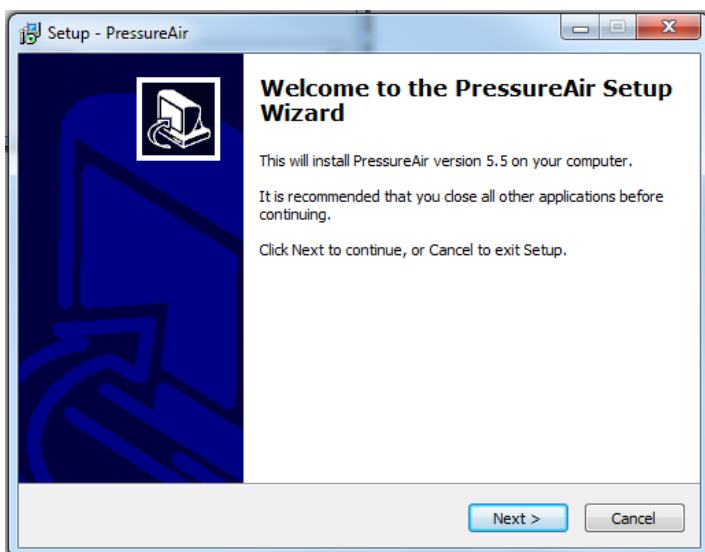


## Follow the easy 9 steps as shown below:



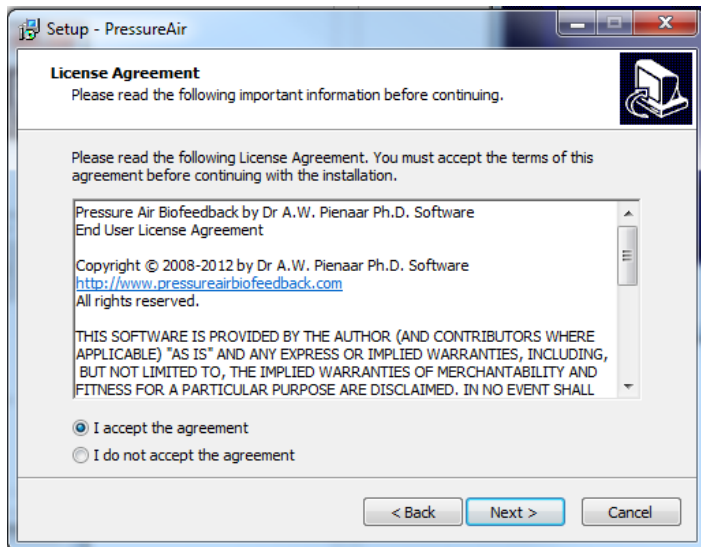
**1.**

Select English language and then select - **OK** icon.



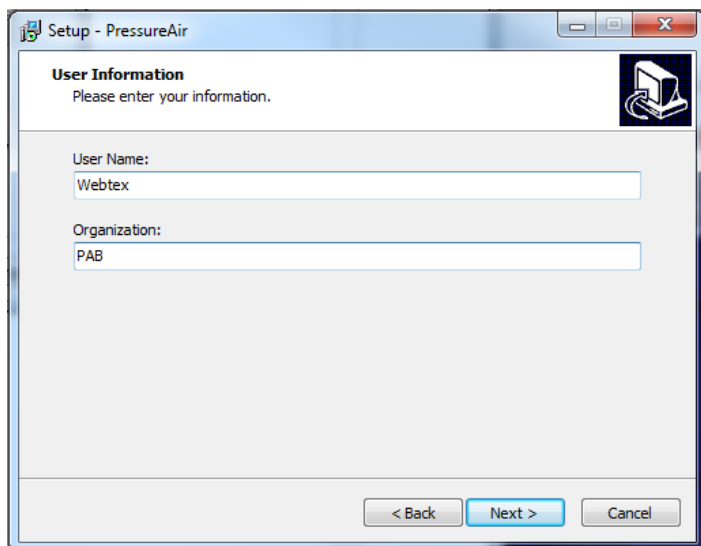
**2.**

Select - **Next** icon.



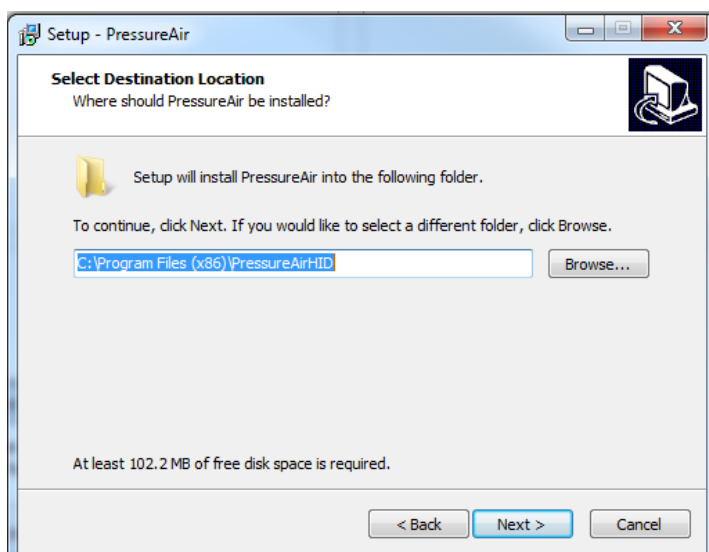
3.

Select - **I accept the agreement.**  
Then Select - **Next icon.**



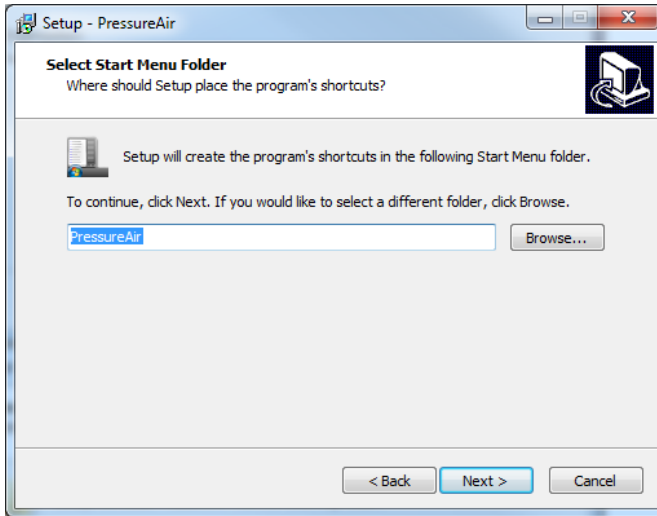
4.

Enter **User Name & Organization.**  
Then Select - **Next icon.**

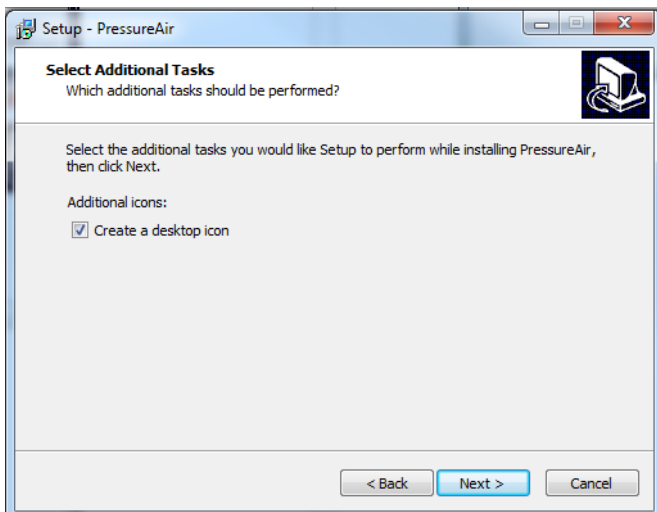


5.

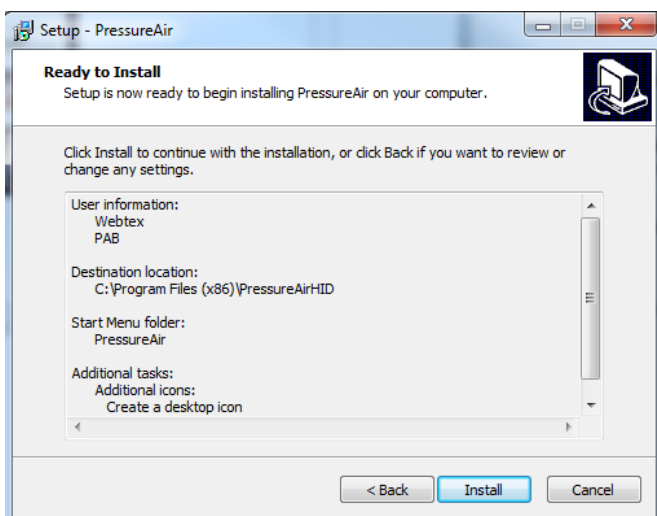
Select - **Next icon.**



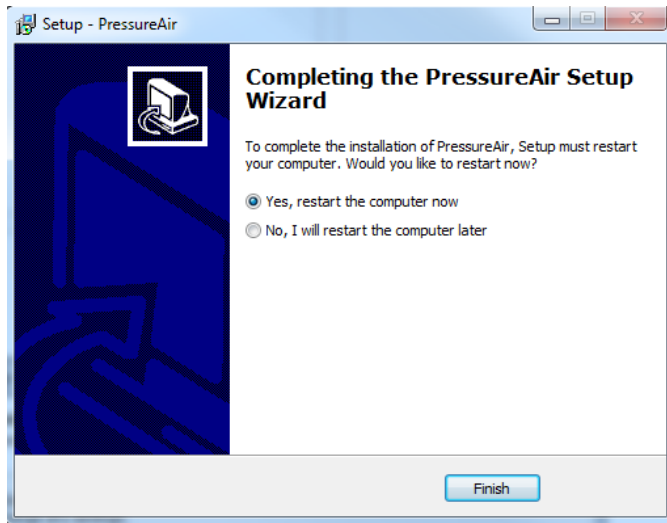
**6.**  
Select - **Next** icon.



**7.**  
Select - **Create a desktop icon**.  
Then select - **Next** icon.



**8.**  
Select - **Install** icon.

**9.**

Select - **Yes, restart computer.**  
Select - **Finish icon.**

The **pab®** Basic Program is now installed on your computer.

## 2. Connecting the **pab®** Basic System parts

This chapter describes how to connect the hardware parts which are necessary to run the **pab®** System. You will receive the **pab®** Basic with the tube and inflator needle already attached, so you only have to connect the **pab®** measuring device via USB cable with your computer (step 4).

### 1) **pab®** Basic system hardware parts



The **pab®** Basic system includes the following hardware parts:

- 1 **pab® Basic Device** with one tube
- 1 **Tube**, gray
- 1 **Inflator needles**, metal with connector for tube
- 1 **Connector**, black with blue rings
- 1 **USB cable**, black

### 2) Connecting the Inflator needle

Insert tube into the connection part of the inflator needle..



### 3) Connecting the tube

Connect the tube with the **pab®** Basic device by attaching the connector. Make sure the tube is fitting tight into connector. When pulling on the tube it must not come.





#### 4) Connecting USB cable

The **pab®** Basic device features a small USB port. Connect the USB cable to the **pab®** Basic device and then to your computer.



#### 5) Disconnecting Tube

In order to detach the tube from the connector (inflator needle and **pab®** Basic device), press the blue ring of the connector downwards. This will release the tube and it will come off easy.



### 3. **pab**<sup>®</sup> Basic Program Set up

Once the **pab**<sup>®</sup> program is installed as described in Chapter 1, this icon shall appear on your desktop.



Connect **pab**<sup>®</sup> Basic device to your computer **before** starting the **pab**<sup>®</sup> program.



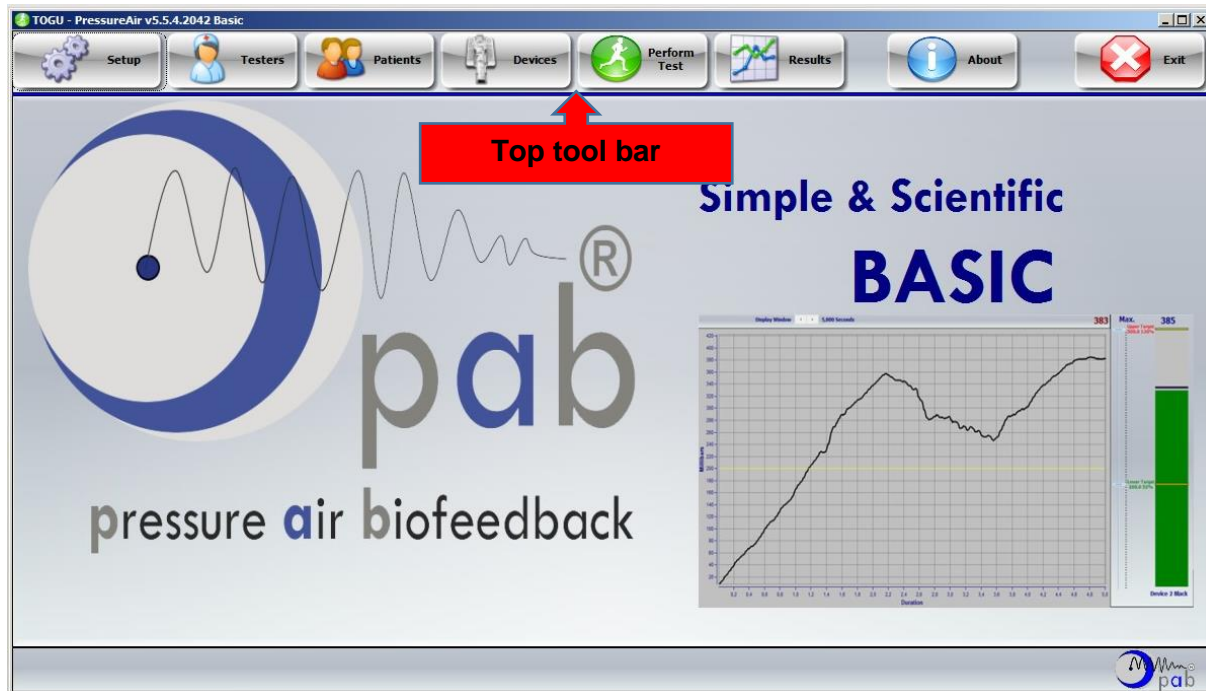
After the **pab**<sup>®</sup> Basic device has been connected to the computer, double-click the Pressure Air icon and a **pab**<sup>®</sup> Login window shall appear:

#### 1) LOGIN



- Enter “**admin**” for User and “**admin**” again for Password.
- Click Login to open your **pab**<sup>®</sup> program.
- The **pab**<sup>®</sup> program can now be operated.

## 2) **pab®** Program and Settings



The **pab®** Program can be operated with the buttons in the top tool bar. The buttons have the following functions:

**Setup:** The language can be chosen and the name of the organization/company can be entered here.

**Testers:** All testers, who operate this program can be registered with this function. Testers are all persons, eg. employees of a practice or organization, that use the **pab®** Program for testing patients or clients.

**Patients:** All persons (patients, athletes, or other clients) who are being tested with **pab®** can be registered with the function **Patients..**

**Devices:** This function is only necessary if the inflated TOGU training devices are to be calibrated with a different value than 0 mbar. **It is not necessary for the standard tests, which are described in the “pab® Manual for Standard Muscle Tests”.**

### **Perform**

**Test:** Tests are performed using this function. Recommendations for various tests are described the “**pab® Manual for Standard Muscle Tests**”.

**Results:** Test results which have been previously saved can be viewed with this function.

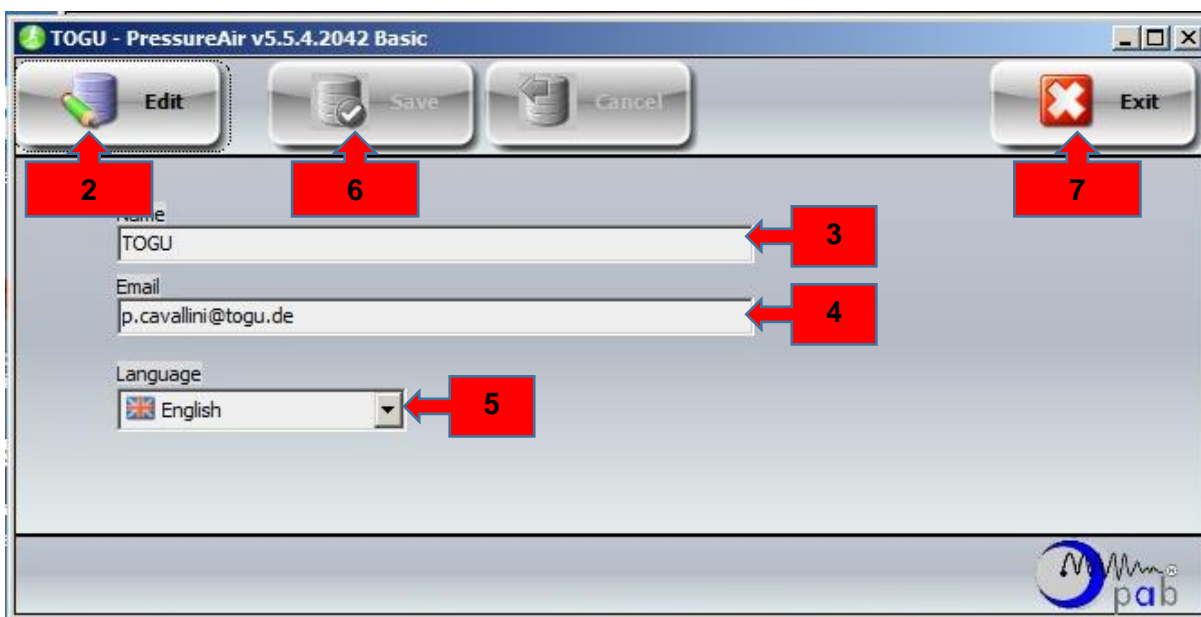
**About:** Shows information about program version and system data.

The following describes how to enter data and operate the **pab®** Basic program. Please note that the values and settings below are only a recommendation.

## Set Up



- 1- Select the **Setup** icon on **toolbar** for general setup and the Setup window will appear.

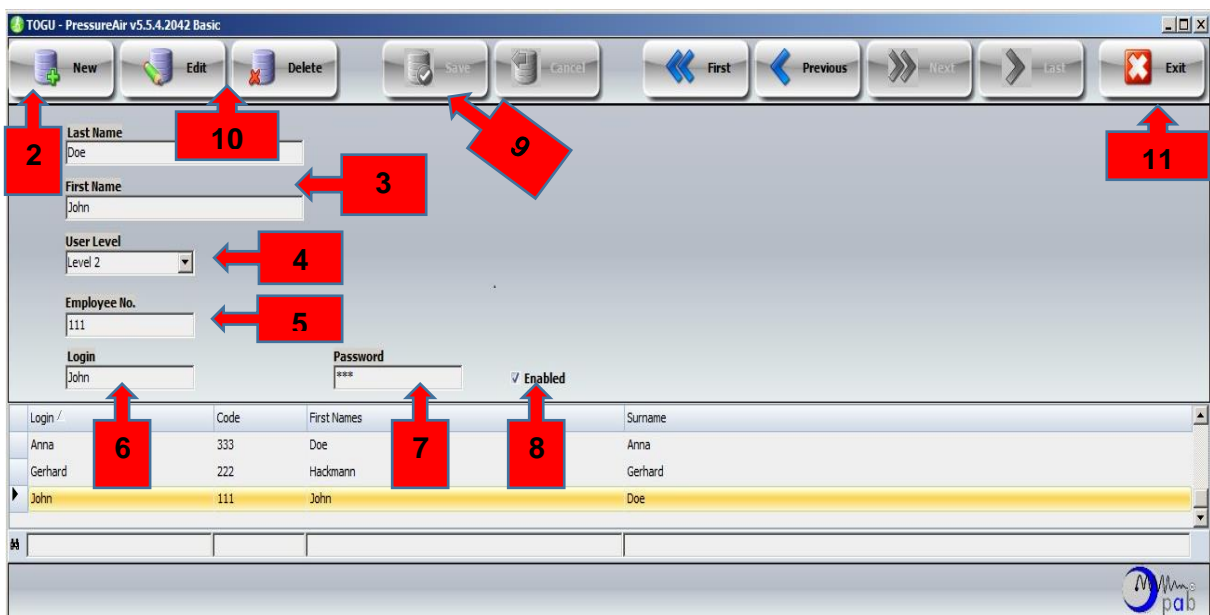


- 2- Select the **Edit** icon to change the setup settings.
- 3- Enter a name which can choose yourself under **Name**.
- 4- Enter your appropriate **email address**.
- 5- Select the **language** for your **pab®** to display.
- 6- Select the **Save** icon to keep your setup settings.
- 7- Select the **Exit** icon to exit Setup.

## Testers



- 1- Select the **Testers** icon on **toolbar** for general setup and the Testers window will appear.

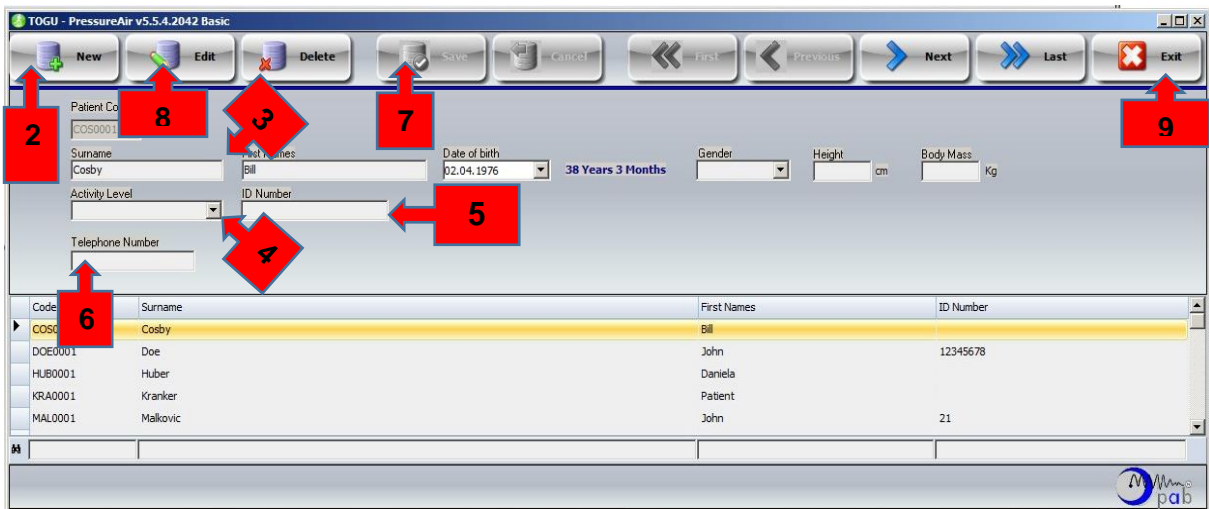


- 2- Select the **New** icon to insert a new tester.
- 3- Enter the **name** and **surname** of the tester.
- 4- The selection field **User level** allows to define for each tester the functions that can be used.  
 Level 2 = all functions can be accessed  
 Level 1 = only patients data can be entered and tests performed  
 Level 0 = only tests can be performed  
 At least one of the testers must have "Level 2" in order to be able to access all functions in **pab®**.
- 5- Enter an **Employee** number or user code for the tester.
- 6- Change **Login** details for the new tester when logging into **pab® Basic**.
- 7- Change **Password** to Testers specific password.
- 8- Ensure the **Enabled** box is checked so that new login and password details change.
- 9- Select the **Save** icon to save the new tester.
- 10- Selecting the **Edit** icon you can edit tester's details or select the Delete icon to delete testers.
- 11- Select the **Exit** icon to exit Testers.

## Patients



- 1- Select the **Patients** icon on **toolbar** for general setup and the Patients window will appear.



Code	Surname	First Names	ID Number
DOE0001	Doe	John	12345678
HUB0001	Huber	Daniela	
KRA0001	Kranker	Patient	
MAL0001	Malkovic	John	21

- 2- Select the **New** icon to insert a new patient.  
**Patients** are defined here as every person who is being tested with the **pab®** (this can also be a healthy athlete). This term serves for simplification.
- 3- Enter the patients **Surname**, **Name**, **Date of Birth**, **Gender** (drop down arrow), **Height** (using a comma to separate decimal numbers) and **Body Mass**.
- 4- Use the drop down arrow to select whether the patient is **active** or inactive. (Active = 30 minutes of continuous exercise like brisk walking, cycle, swim, gym, etc. x3 per week. Inactive = less than what is required for active).
- 5- Enter the **identification number** of the patient.
- 6- Enter the **telephone number** of the patient.
- 7- Select the **Save** icon to save the patient.
- 8- Selecting the **Edit** icon you can edit patient's details or select the Delete icon to delete patients.
- 9- Select the **Exit** icon to exit Patients.



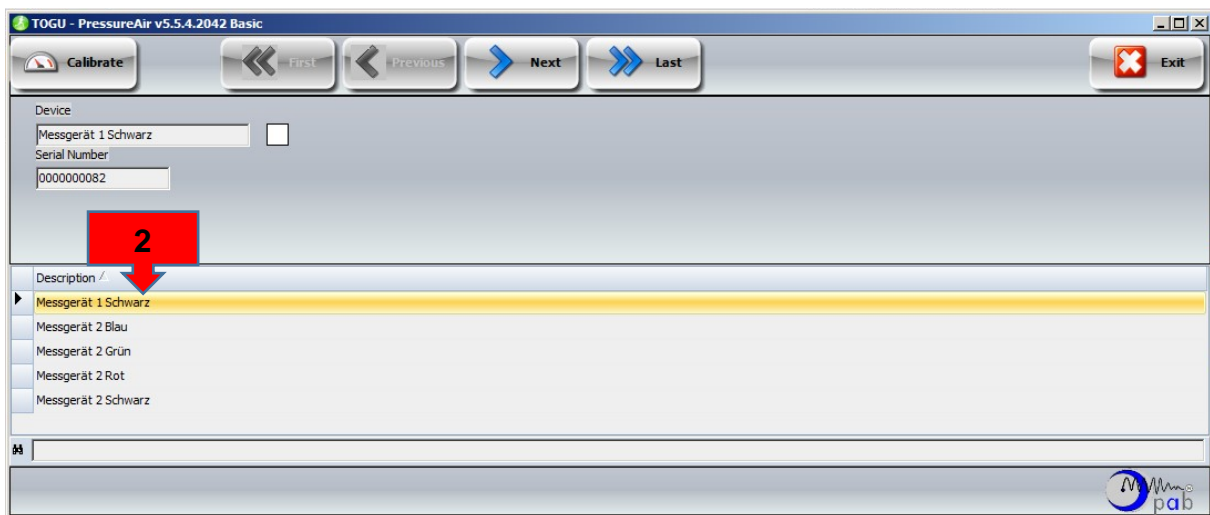
## Devices



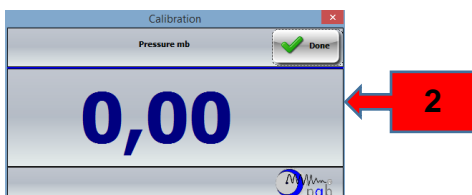
Please note that this function is not required for the standard tests, which are described in the **pab® Manual for Standard Muscle Tests**”.

This function should be used only if you want to calibrate with other values than 0 mbar or to double check the recommended calibration value of 0 mbar (see **pab®** manual for standard muscle tests).

- 1- Select the **Devices** icon on **toolbar** for general setup and the Devices window will appear.



- 2- Select the correct **pab®** device for calibration, e.g. Device 1 Black.



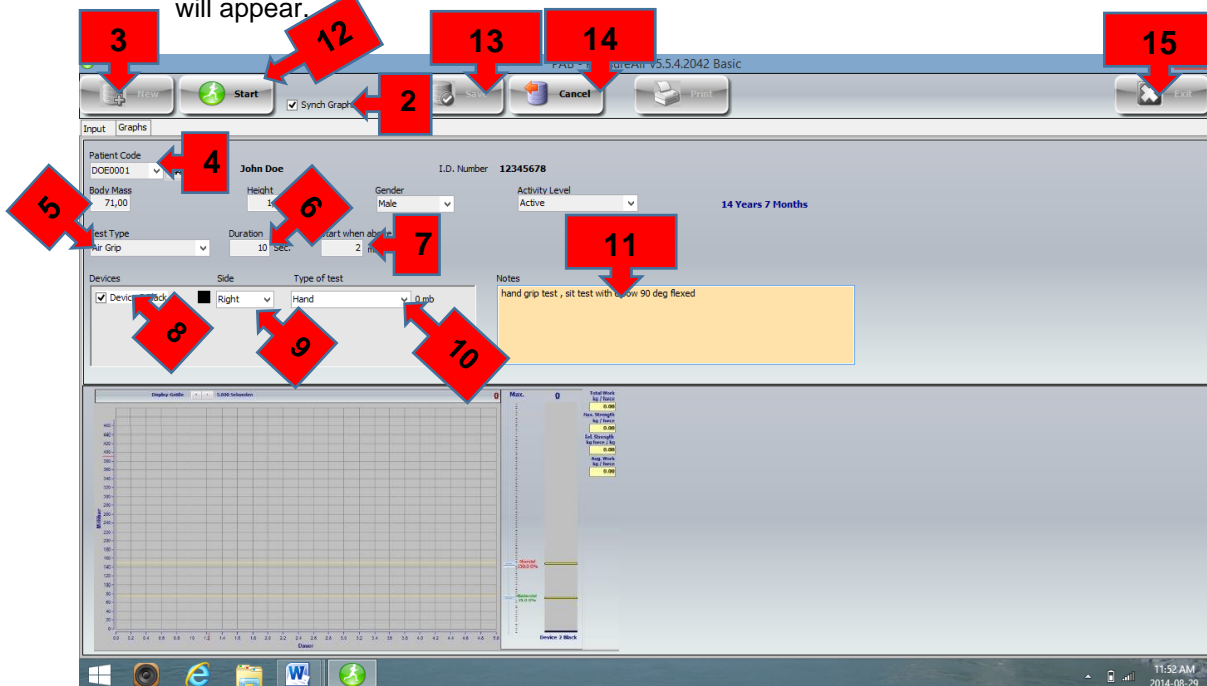
- 3- Remove the inflator needle with the tube from the valve of the TOGU training device and then pump some additional air with the ball pump into the TOGU training device.
- 4- Check if the desired pressure value has been reached (eg. 50 mbar) by connecting the TOGU training device with the **pab®** Basic System and repeating Step 2.
- 5- The calibration value can always be set at 0 mbar (recommended) by only inserting the inflator needle without the tube into the TOGU training device (see **pab®** manual for standard muscle tests).
- 6- Select the **Exit** icon to exit Devices.

## Perform Tests



The following describes the entry fields and options for performing a test. Recommendations for particular tests are shown in the **pab®** manual for standard muscle tests. Apart from that, it is also possible to perform tests according to own testing schemes.

- 1- Select the **Perform Test** icon to perform a muscle strength test and the Perform Test window will appear.



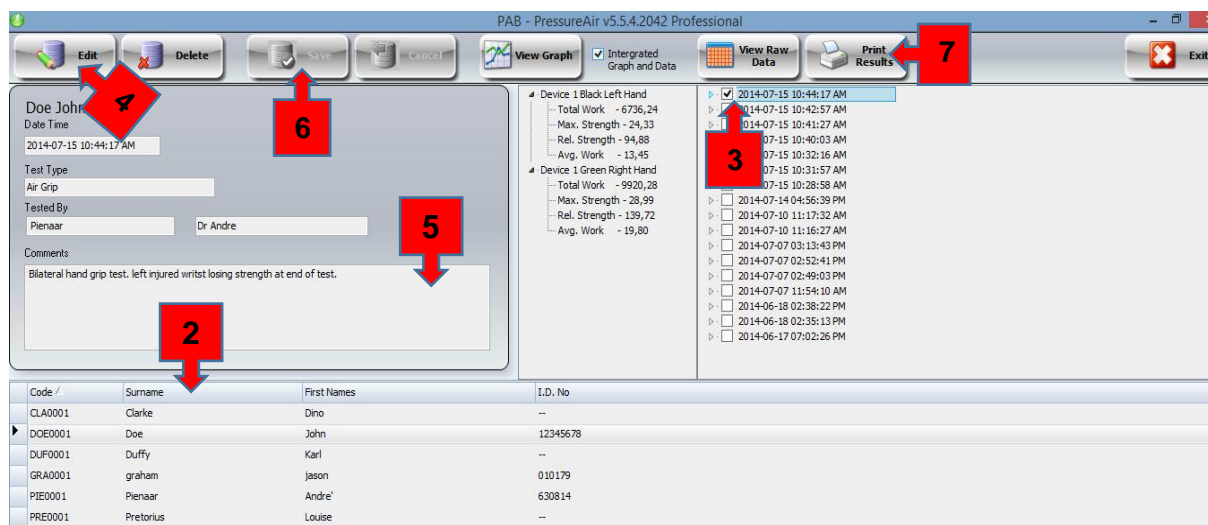
- 2- Select **Synch Graphs** to activate strength graphs. Select **Strength Bars**, if you want to see only bars, without a graph.
- 3- Select the **New** icon to enter patient to be tested.
- 4- Use the **drop down arrow** to select the patient to be tested or select **search** button to find patient.
- 5- Use the drop down arrow to select **Test Type** (e.g. Air grip, Pull Ring, etc.).
- 6- Enter **Duration** of the test, standard is **10 seconds**. However, you can select any time duration depending if you want to test maximum muscle strength (3-5sec), muscle strength and endurance (10sec), muscle endurance (30-60sec). If you enter 0, **pab®** will run indefinitely unless you select the start/stop icon (no. 12) to terminate the test.
- 7- Enter 5 mbar in **Start When Above**. This means that the test will only start when air pressure exceeds the **5 mbar** threshold as soon as patient exerts force and will measure force output from 0 sec to end of test. If you select 0 mbar, the test will start immediately without the patient exerting force and strength/force calculation will not be accurate.
- 8- Select Device 1 Black.
- 9- Use the first drop down arrow to select Left or Right.
- 10- Use the second drop down arrow to select anatomical site (e.g. hand, hip, etc.) to be tested.
- 11- Additional information can be entered if you click on the **Notes** box.
- 12- Select **Start** icon to start the test.
- 13- After completion of the test, select the **Save** icon to save the test data.
- 14- If not satisfied with the test select the **Cancel** icon and redo test.
- 15- When testing is finished, select **Exit** icon to exit Perform Test.



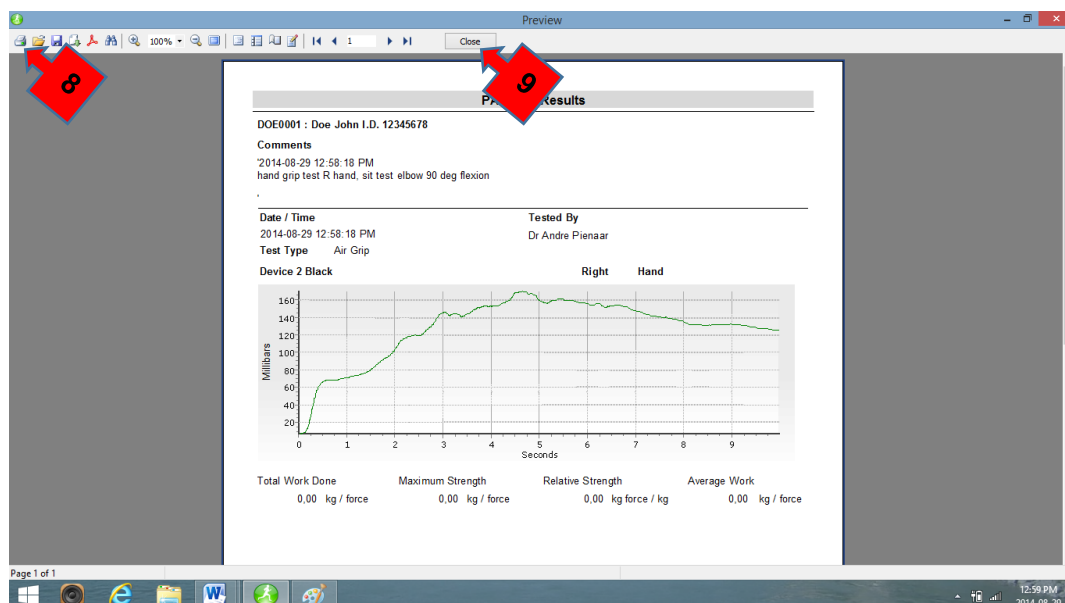
## Results Option 1



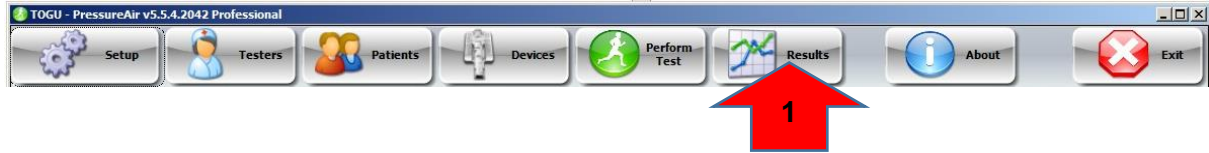
1- Select the **Results** icon on **toolbar** for general setup and the Results window will appear.



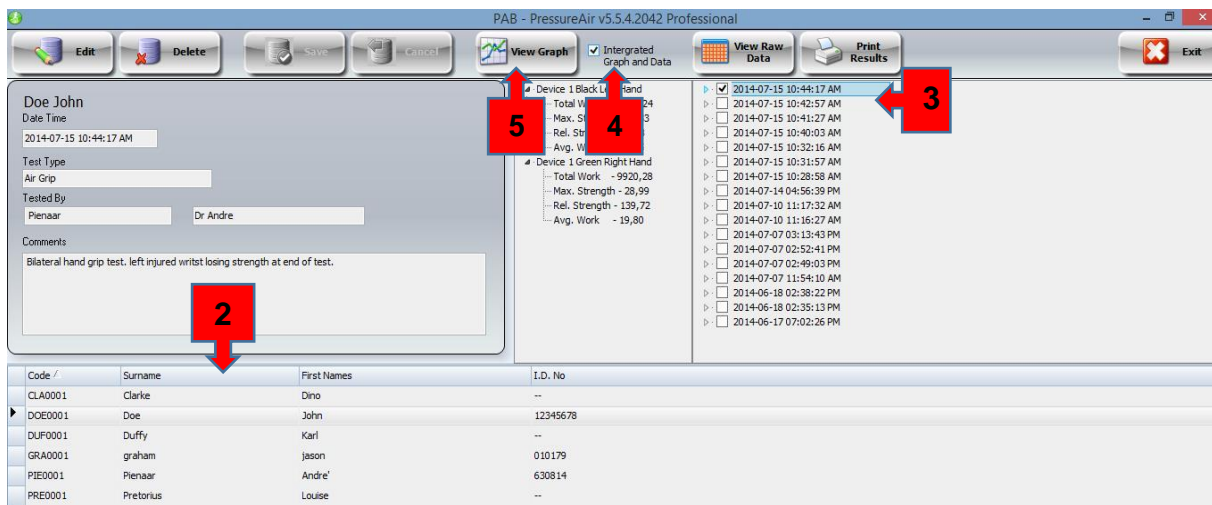
- 2- Select the **patient** tested
- 3- Select the appropriate **test results** from the patient tested. It is possible to select more than one test at a time, all of which will be presented in the same chart.
- 4- Select the Edit icon to activate the **Comments** box.
- 5- Type your comments in the comments box.
- 6- Select the Save icon to save your comments.
- 7- Select the Print Results icon to open the Print Results window (see window below).
- 8- Select Print icon to print test results.
- 9- Select Close icon to exit Print Results.



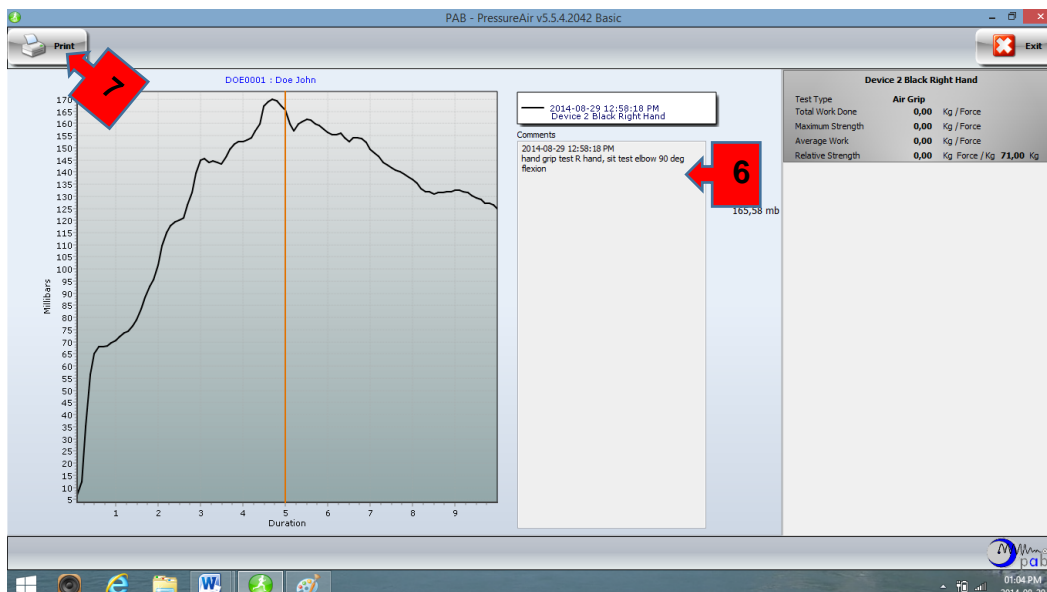
## Results Option 2



1- Select the Results icon to view test results and the Results window will appear.



- 2- Select the patient tested.
- 3- Select the appropriate test results from the patient tested.
- 4- Select or tick the integrated Graph and Data box (to activate graph and data together).
- 5- Select View Graph icon to view graph and data together (see window below).

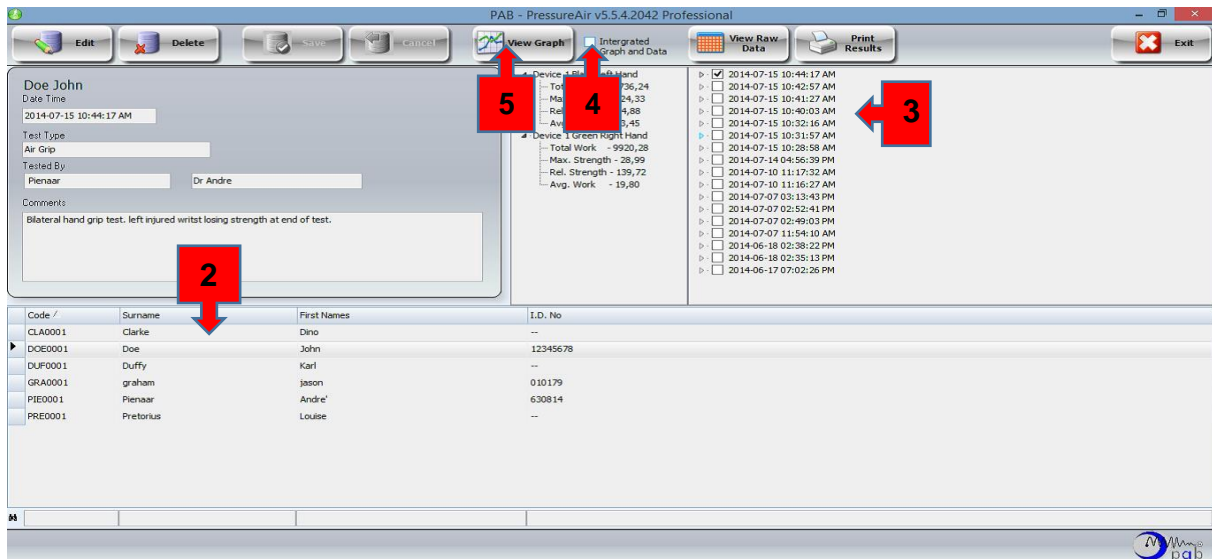


- 6- Insert comments in the Comments box
- 7- Select Print icon to print test results

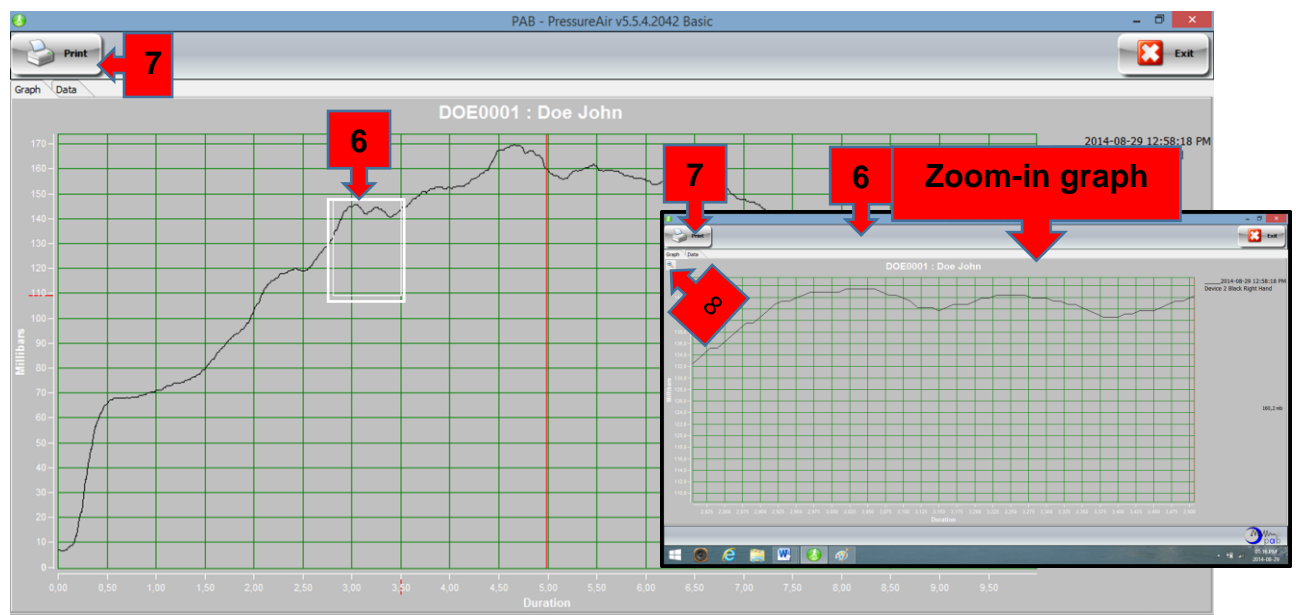
## Results Option 3



- 1- Select the Results icon to view test results and the Results window will appear.



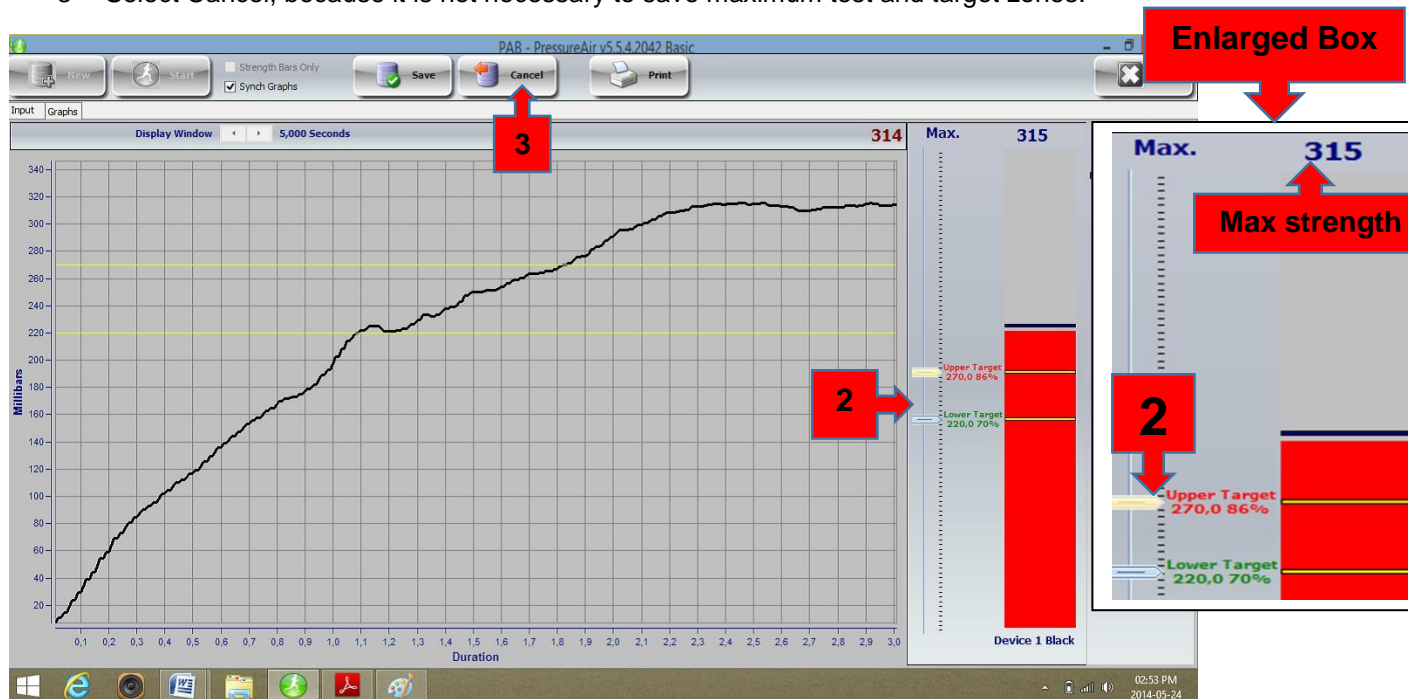
- 2- Select the patient tested.
- 3- Select the appropriate test results from the patient tested.
- 4- Select **AND UNTICK** the integrated Graph and Data box (to activate full page graph).
- 5- Select View Graph icon to **view full page graph (see window below)**.



- 6- For zoom-in function, select from top, left click + hold, and drag cursor to bottom (see white box area) and zoom-in graph.
- 7- Select Print icon to print test results of normal graph or zoom-in graph.
- 8- Click zoom-out icon to return to normal graph.

## Isometric training with pab®

- 1- To use **pab®** as a biofeedback exercise system, follow same 12 steps as in Perform Test (page 5), but do only a 3 sec maximum isometric strength test. This is to set up target training zone (See Example Below).
- 2- After 3 sec max. test, select target training zone between  $\pm 70\text{--}85\%$  of maximum strength force (See Example Below and enlarged box).
- 3- Select Cancel, because it is not necessary to save maximum test and target zones.



- 4- Select New to open the Perform Test window again (see window below)
- 5- Select Duration and enter nil (0), for unlimited time to train.
- 6- Select Start to begin training session.

The screenshot shows the PAB - PressureAir v5.5.4.2042 Basic software interface, specifically the Perform Test window. The window displays patient information (Patient Code: DCE0001, Name: John Doe, I.D. Number: 12345678, Body Mass: 71,00, Height: 1,80, Gender: Male, Activity Level: Active, 14 Years 7 Months). The Test Type is set to Air Grip. The Duration is set to 0 seconds. The Start when above value is set to 2 mb. The Devices section shows 'Device 2 Black' selected on the Right side. A red box labeled '4' points to the 'New' button in the top toolbar. A red box labeled '6' points to the 'Start' button in the top toolbar. A red box labeled '5' points to the 'Duration' field.

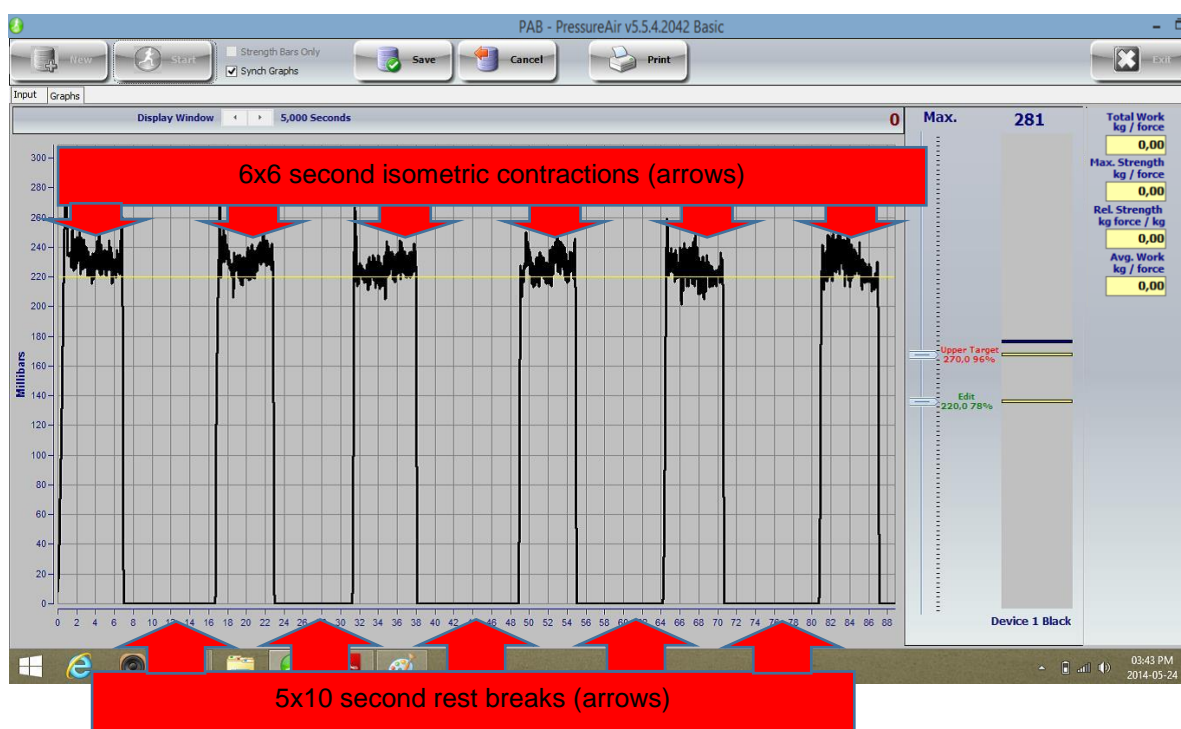


7- A standard isometric exercise rehabilitation session with **pab®** will be as follows:

A: Set 1 is done at the selected 70-85% target training intensity for 6 seconds, repeated 6 times with 10 second rest breaks in between (6 x 6 x 10 principle). See example of one set, below.

B: After completion of a set, rest 2 minutes.

C: Do Set 2 and Set 3 in the same way. (see **pab®** isometric training graph below).



## Definitions:

**Strength:** The graph on the chart represents the pressure in millibar, which is created inside the TOGU Training device by the patient's application of force.

The boxes **Max Strength** and **Rel. Strength** show the force with Kilogram as unit. 1 Kilogram equals 9.81 Newton.

<b>Total Work:</b>	The total amount of strength calculated in kg/force (measured every hundreds of a second) from 0 seconds to the end of the test.
<b>Maximum Strength:</b>	the maximum or highest peak strength achieved in kg/force, while doing the strength test.
<b>Relative Strength:</b>	the total work done (see total work above), divided by the patient/athlete's body mass. This indicates the strength/weight ratio of the patient/athlete in kg/force per kg body mass.
<b>Average work:</b>	the total work done (see total work above), divided by the total calculated strength measurements.

You will find instructions how to test various muscle groups in the **pab® Manual for Standard Muscle Tests**.